

1 IN THE UNITED STATES DISTRICT COURT
2 FOR THE NORTHERN DISTRICT OF OHIO
3 DEBORAH GALOSKI,)
4 Plaintiff,)
5 vs.) No. 1:14-cv-00553
6 APPLICA CONSUMER PRODUCTS,)
7 INC.,)
8 Defendant.)

9 The deposition of PAUL W. BORTH, Ph.D., BCE,
10 called for examination pursuant to Notice and the
11 Rules of Civil Procedure for the United States
12 District Courts pertaining to the taking of
13 depositions, taken before Elizabeth L. Vela, an
14 Illinois Certified Shorthand Reporter, at One North
15 Wacker Drive, Chicago, Illinois on the 26th day of
16 January, 2017, at the time of 9:16 a.m.
17 (Proceedings concluded at 3:55 p.m.)

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23 Reported by: Elizabeth L. Vela, CSR
24 License No.: 084-003650

<p style="text-align: right;">Page 198</p> <p>1 A. Because there could be -- without a 2 control to compare to, you cannot say with 3 certainty that any of the results are due to the 4 treatment. 5 Q. Okay. So if you don't have a control, you 6 would struggle to prove causation? 7 A. Yes. 8 Q. What does causation mean to you? 9 A. Cause and effect. In this kind of 10 context, a treatment -- I don't know what it means 11 legally, but to me, it means some treatment caused 12 something in an organism. 13 Q. Well -- and that's a fair limitation, 14 because we do place meaning on causation from a 15 legal perspective, but I'm more concerned with your 16 scientific -- in your scientific and expert 17 opinion -- 18 A. Okay. 19 Q. -- what causation means to you. 20 A. I don't use that term. I can't remember 21 if I ever did use the term. So I'm just thinking 22 about dictionary and thesaurus and that sort of 23 thing. 24 Causation -- how do you say this in</p>	<p style="text-align: right;">Page 200</p> <p>1 properly done, and the only variable that changed 2 was the chemical, I'd say yes, the chemical caused 3 the death of the insect. 4 Q. Okay. Do you have an opinion on what the 5 definition is of the word correlation? 6 A. Yes. 7 Q. What does correlation mean to you? 8 A. Correlation is used when someone wants to 9 describe the relationship between one thing and 10 another. 11 It's either correlated, meaning there 12 is -- usually, it's in this way. It's either 13 correlated or not correlated. 14 If it's correlated, in my -- the way I 15 would use it, then that means there is an 16 association, a relationship between A and B. If 17 it's not correlated, then there's no relationship. 18 Q. Okay. If you know, Doctor, in your 19 opinion as a scientist, do you draw a distinction 20 between the words causation and correlation in your 21 mind? 22 A. In my mind, yes, because causation, even 23 though I don't use it, as has been noted, seems to 24 be a more rigorous -- seems to be a more rigorous</p>
<p style="text-align: right;">Page 199</p> <p>1 English? I mean, the causation is something that 2 caused an effect on an organism or something else. 3 Q. But let me try to put it this way. 4 A. Okay. 5 Q. In your experience working with your 6 previous employer -- 7 A. Okay. 8 Q. -- you would make, let's say, 9 hypothetically, a chemical compound. 10 A. Yes. 11 Q. And you would spray that chemical compound 12 onto a bug -- 13 A. Okay. 14 Q. -- and it would kill the bug. 15 A. Okay. 16 Q. In that instance, would you be comfortable 17 saying the spray caused the bug's death? 18 MR. FALKOF: I'm going to object to the 19 question, because he's already told you he doesn't 20 use the word cause or causation in his work. 21 MR. BARTELA: Objection noted. 22 BY MR. BARTELA: 23 Q. If you know. 24 A. If there is a control, everything else was</p>	<p style="text-align: right;">Page 201</p> <p>1 word or a more specific word than correlation. 2 Q. It would be fair to say there might be a 3 higher level of certainty when you're using the 4 term corr -- or causation instead of correlation? 5 MR. FALKOF: Same objection as earlier. 6 THE WITNESS: I'd agree, except I'd have to add 7 this. 8 There is an actual statistical test for 9 correlation called an R-squared test. And if that 10 R-squared number is very high, then you are very 11 certain that there's a causation and a positive 12 relationship between these two things. 13 BY MR. BARTELA: 14 Q. And if you had that really high R-squared 15 value, in theory, if you continued to replicate a 16 test over and over again, your results would be 17 consistent, right? 18 A. You get the same thing, yes. In theory, 19 yes. 20 Q. Okay. Would you agree that in a 21 scientific setting, if you are unsure of the level 22 of correlation between your test variable and the 23 outcome that it might be dangerous to continue to 24 replicate that test?</p>